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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,184	07/24/2001	Edmund L. Wolak	P1292	5265

22849 7590 06/05/2003

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EXAMINER

MENEFEER, JAMES A

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 06/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/915,184

Applicant(s)

WOLAK ET AL.

Examiner

James A. Menefee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,7-12,14 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7-12,14 and 23-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
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### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

In response to the amendment filed 29 April 2003, the specification and claims 1, 7-9, 23, and 26 are amended. Claims 2-6, 13, and 15-22 are cancelled. Claims 1, 7-12, 14, and 23-32 are pending.

### ***Terminal Disclaimer***

The terminal disclaimer filed on 29 April 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on application number 09/915,186 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 31-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 31-32 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are that there is no claimed relationship between the laser

diode and the fiber, thus it is not known where they are positioned in relation to each other. The amendment to the claims overcame the previous 112 rejection to claims 23-30, however, claims 31-32 were not amended.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 7-12, 14, and 23-32 are rejected under 35 U.S.C. 103(a) as being obvious over Vail et al. (US 2002/0106156) in view of Aherne et al. (previously cited US 6,400,736).

The applied reference has a common assignee and some common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed

on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding claim 1, Vail discloses a system comprising a laser diode source 22 having a first Fabry-Perot cavity 24 having a first cavity axis inherently between a back facet and a front facet, each facet having a reflectance where the reflectance of the back facet is inherently higher than that of the front facet because light is emitted from the front facet. A pigtail fiber 32 having a lensed fiber input end comprising a biconic lens 34 and positioned from the front facet of the laser diode 22 to form an optical coupling region and is aligned relative to a lasing cavity 24 of the laser diode 22 to receive the first light output into the fiber. A first portion of the first light output will be reflected off the lensed fiber input end and a second portion will be directed back into the cavity and a third portion will be reflected off the front facet. This forms a second cavity between the fiber and the front facet that inherently will be periodically out of phase with the first cavity 24 due to changes in the ambient temperature of the system, thus forming a tracking error. The biconic lens 34 is for suppressing the formation of the second cavity (see especially Figs. 2-3 and the discussion thereof). There is not disclosed a light monitor positioned adjacent to the back facet that receives light emitted from the back facet. Aherne teaches a laser diode that emits light from both a front facet 24 and a back facet 25, where light from the back facet 25 is received by a light monitor 29 (Fig. 2). It would have been obvious to one skilled in the art to include a back facet that emits light to a light monitor so that the light output of the laser can be

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monitored and a bias to the laser can be controlled based on the laser output, as taught by Aherne.

Regarding claims 7 and 10-12, the biconc lens may be an offset biconic lens having an origin of a first radius of a lens surface offset from the center axis of the fiber. The specific shape of the biconic lens may be chosen based on the application, and thus it would have been an obvious engineering design choice to shape the lens in such a manner as to meet the limitations of these claims. (par. [0037] – [0039]).

Regarding claim 8, the center core of the fiber may be co-planar with the first cavity axis of the laser diode.

Regarding claim 9, the center core of said fiber is at a small angle  $\Psi$  relative to the first cavity axis of the laser diode.

Regarding claim 14, the lensed fiber input facet 34 will have a highly reflective coating. It is inherent that this reflectivity is higher than the reflectivity of the front facet, as the front facet is emitting light and thus must have a reflectance lower than would be provided by the highly reflective coating of the facet 34.

Regarding claims 23-26 and 31-32, the limitations are taught as in the rejection of claims 7 and 10-12 above.

Regarding claim 27, see the rejection of claim 9 above.

Regarding claims 28-30, the optical axis of the laser may be co-planar, parallel, and co-linear to the center axis of the fiber, as shown in Fig. 3 of Vail.

***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (703) 605-4367. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JM  
May 29, 2003

  
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